CMG COVID-19 Weekly Update 9.19.21

New or Updated This Week:
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Projected Timeline for Vaccine Approval for Younger Children (new)
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Hello again everyone. This is the 75th in a series of COVID-19 updates from Capitol Medical Group. These notices are meant to provide an update on the pandemic, explain procedures we have put in place to best serve you, and provide guidance about protecting yourselves and your families. New and updated sections are so indicated.

CMG Flu Vaccine Has Arrived; Flu Clinics to Begin Immediately (new)

We are happy to report we received our first shipment of flu vaccine this week, and will begin vaccinating our patients and their families immediately. We will be using an online vaccine scheduling system this year. To book an appointment, please follow this link. Please note that although the link leads to a landing page that says "Capitol Medical Group Pediatrics," it can and should be used for both pediatric and adult patients and their families. There is not a separate scheduling modality for adults. Please also note that each person being vaccinated must have their own appointment – we will not be able to vaccinate those who arrive without an appointment. Appointments are currently available to be booked through Saturday, October 16th. We will be adding many additional days to the schedule as more vaccine arrives in the coming weeks. We anticipate conducting flu clinics through mid-November.

We will again be using a drive-up vaccine strategy this year, utilizing the building's parking lots. Flu clinics will occur Tuesdays through Fridays in the first of the two underground parking levels, and Saturdays in the second of the two underground levels. Families will be directed where to park, have their appointments checked off, fill out a simple form, receive their vaccines at the car, and drive away. Last year most families found this process to be both more efficient and less anxiety-provoking for the children than coming up into the office. Administering flu vaccine will be the sole activity of these drive-up clinics. The nurses will not have other vaccines available to administer, nor will they be equipped to perform testing of any kind.

Patients who are coming into the office for an appointment with a provider, such as a well visit, will be able to receive flu vaccine at that time if they wish. The exception is during our early morning "Before Hours" walk-in hour for sick children – we do not have enough nursing staff during Before Hours to administer flu vaccine.
Flu vaccine is recommended for everyone age 6 months and up. The efficacy of the flu vaccine varies from year to year and is not knowable in advance. In a good year the vaccine is 60-70% effective; in a bad year the number is

more like 30-40%. Though the vaccine does not always prevent contraction of the flu, breakthrough cases tend to be less severe than those among the unvaccinated. The vaccine cannot give you the flu, though like any vaccine it can generate reactogenic effects as your immune system responds. These might include a sore arm, fever, fatigue, or achiness for a day or two.

There is no way to predict how much influenza will circulate this year. Last year there was record low flu activity everywhere in the world – surely the result of dramatically decreased indoor, unmasked human interaction. However, there is now much more human-to-human interaction occurring in the United States. Since restrictions on activity eased in the spring, we have seen a significant uptick in transmission of routine illnesses such as the common cold, strep, croup, and respiratory syncytial virus (RSV). This suggests we are likely to see more influenza in the United States this year than last, though masking in schools and places of work is likely to reduce transmission to some degree.

There is also no way to know whether flu will peak at the normal time this year. RSV, normally a winter pathogen, is circulating in the United States right now. It is possible but by no means assured that flu might circulate at an unusual time. Currently we are not seeing any flu activity in the CMG patient community. The CDC's latest Weekly Influenza Surveillance Report suggests flu activity is quite low throughout the US at the moment.

Projected Timeline for Vaccine Approval for Younger Children (new)

Pfizer is likely to be the first vaccine manufacturer to seek Emergency Use Authorization for its vaccine in children younger than age 12. Pfizer has suggested for some time that it hopes to submit data to the FDA by late September or early October for its age 5-11 cohort. If this timeline holds and the data is promising, vaccine approval for this age group could come as early as late October or early November.

A Pfizer executive this week suggested data to support an EUA application for its youngest cohort, age 6 months through 4 years, will likely be available several weeks after the age 5-11 data. If this bears out, Pfizer may be able to apply for the youngest children as early as November, which could mean approval before the end of the year.

Moderna is not as far along in its pediatric trials. The Moderna age cohorts are structured a bit differently – age 6-11, age 2-5, and age 6 months to less than 2. Moderna is currently accumulating data on its age 6-11 year cohort but has not announced an expected timeline for submission to the FDA.

CMG has both the Pfizer and Moderna vaccines on hand. We will begin vaccinating the younger children as soon as an Emergency Use Authorization is granted. Many more details will be forthcoming as that time approaches.

Another Study Suggesting Differences Between the Vaccines (new)

Somewhat lost in the media attention surrounding the FDA's consideration of the booster issue (more on this when a decision has been made) was a CDC study published Friday that again suggests a meaningful difference between the vaccines. This study looked at two measures: vaccine effectiveness against hospitalization over time, and antibody titer production in the 2-6 weeks after vaccination. For each of these measures, the same pecking order emerged: Moderna more effective than Pfizer, and both Moderna and Pfizer substantially more effective than Johnson & Johnson.

The vaccine effectiveness portion of the study assessed 3,689 adults age 18 and above admitted to 21 hospitals across 18 states from mid-March through mid-August. People with immunocompromise were excluded, as were people who were only partially immunized. The authors assessed the time elapsed between vaccination and hospitalization to determine whether there was any deterioration in vaccine protection over time. Vaccine effectiveness at preventing hospitalization was calculated for each of three time periods: the period 14-200 days after full vaccination, the period 200 days or more after vaccination, and the two time periods combined (the entire length of the study).

For the entirety of the study, vaccine effectiveness against hospitalization was as follows: Moderna 93%, Pfizer 88%, and J&J 71%. These were the numbers most commonly cited in media reports. They are important, and clearly indicate the mRNA vaccines from Moderna and Pfizer outperformed the J&J vaccine in preventing hospitalization. J&J's 71% efficacy number against hospitalization is still very good – we would have gladly taken this number at the beginning of the pandemic – but the mRNA vaccines appear to perform better.

A closer look at the data, however, suggests a more substantial difference between Moderna and Pfizer the further out one gets from vaccination. In the six month period immediately following vaccination – 14 days to 200 days after the second dose – Moderna and Pfizer performed almost identically: Moderna 93% effective against hospitalization, Pfizer 91% (J&J's number for this portion of the study was 68%). But in the period 200 or more days out from full vaccination, Moderna showed no real decline in protection against hospitalization (92%) whereas Pfizer's number fell to 77%.

These numbers add to accumulating data from multiple sources suggesting Pfizer's protection against hospitalization does indeed wane to some degree over time. This is the crux of the issue the FDA is weighing right now – how much reduction in protection is occurring, and for what portion of the population does it make sense to authorize a booster dose. Our best guess is that the FDA will approve a single booster dose for those who received the Pfizer vaccine and are over a certain age – perhaps 60 or 65. We would also like to see approval of a single dose of one of the mRNA vaccines for those who received J&J (at least those over a certain age), but that does not appear to be under FDA consideration at this time.

The second part of the study looked at antibody levels generated by the vaccines 2-6 weeks after completion of vaccination. Two types of antibody were assessed: those against the SARS-CoV-2 spike protein, and those against its Receptor Binding Domain (RBD), a part of the virus that enables binding to human cells. The authors found an order of magnitude difference between the mRNA vaccines and the J&J vaccine in terms of antibody production. Average antibody titers against the spike protein were 3,059 for Moderna, 2,444 for Pfizer, but only 56 for J&J. The difference between Moderna and Pfizer here may not be overly meaningful, but the difference between the two mRNA vaccines and J&J is substantial. There was a more pronounced difference between Moderna and Pfizer in average antibody titer against the Receptor Binding Domain: 4,274 for Moderna, 2,950 for Pfizer. J&J's average number was again substantially lower: 51. While antibody production is not the only measure of the effectiveness of the immune response, many studies have now shown an association between higher antibody levels and greater immune protection.

It is not yet clear what accounts for the apparent difference between the Moderna and Pfizer vaccines. The difference in antibody production against the Receptor Binding Domain is interesting, but may not prove to be meaningful. Other possibilities include the larger dose of mRNA per injection and the longer spacing between doses. More data may yet show a waning of protection over time for Moderna. If so we will report that here.

Status of the Pandemic in the United States and the World (updated)

The situation in the United States was mixed this week. The 7-day average of new cases increased slightly, while test positivity and number of hospitalizations decreased. The number of deaths per day, a lagging indicator, increased once again. Deaths per day will start to decrease when hospitalization numbers have fallen steadily for several weeks.

The 7-day cumulative number of Covid-19 cases per 100,000 people in theUnited States currently stands at 315, up from 308 last week and compared to 343, 329, 308, and 273 the four weeks prior.

The 7-day average number of new cases per day in the United States is currently 148,000, up from145,000 last week and compared to 164,000, 155,000, 146,000 and 128,000 the four weeks prior. The United States recorded roughly 1,041,000 total new cases in the last week. This represents 28.1% of all new cases worldwide. The United States has 4.25% of the world's population.

The national test positivity rate currently stands at 8.7%, down from 10.1% last week and 10.5%, 11.1%, 11.4%, and 11.2% the four weeks prior.

The number of people currently hospitalized with Covid stands at 95,000, down from 101,800, 102,000 and 101,000 the last three weeks and compared to 92,000, 81,000, and 61,000 the three weeks prior.

An average of roughly 2,000 deaths per day were recorded in the United States this week, up from 1,640 last week 1,550, 1,265, 975, 650, 495, 310, 275 and 175 the eight weeks prior. As of Saturday morning, the pandemic had killed roughly 673,000 people in the United States.

The current top 10 states (cumulative 7-day case rate per 100,000 population): Tennessee 763, West Virginia 763, Alaska 707, South Carolina 686, Kentucky 672, Wyoming 574, Montana 560, North Carolina 490, Idaho 483, and Alabama 483. Again, the national number is currently 315 cases per week per 100,000 people.

Though the per capita numbers in our region all increased this week, Maryland is currently the least affected state. The numbers for this week (cumulative 7-day case rate per 100,000 population): Maryland 147 (up from 112 last week and compared to 140, 126, 112, and 98 the four weeks prior), DC 266 (up from 147 last week and 196, 175, 161 and 154 the 4 weeks prior), and Virginia 294 (up from 280 last week and 273, 238, 189, and 154 the 4 weeks prior). Virginia, DC, and Maryland rank 28th, 33rd, and 51st out of the 51 states plus DC on the list this week.

9 populous nations have higher per capita rates of disease than the United States at the moment. Those 9 are: Serbia (679 cases per 100,000 population this week), Israel 630, Mongolia 623, Cuba 490, Georgia 448, Malaysia 399, Botswana 371, Slovenia 343, and West Bank/Gaza 322.

Status of the Pandemic in the Washington Area (updated)

New cases reported in DC averaged 269 per day this week, up from 150 last week and 195, 173, 163 and 157 the 4 weeks prior. To this point DC has documented roughly 58,850 total cases and 1,167 deaths. New cases in Montgomery County averaged 146 per day this week, up from 111 last week and compared to 161, 141, 120 and 117 the 4 weeks prior. Montgomery County has now recorded roughly 78,150 total cases and approximately 1,613 deaths.

Statistics – CMG Tests for Active Disease (updated)

CMG conducted 598 tests for active disease this week, 10 of which were positive. This translates to a positivity rate of 1.7%, down from 1.8%, 2.5%, 2.2%, and 2.9% the last four weeks. CMG's average positivity rate for the duration of the pandemic is 2.0%.

Group Virtual Visit Offerings – On Hiatus

CMG's Group Virtual Visit sessions will remain on hiatus this week. We hope to bring these back in the coming weeks.